

A NEW SPECIES OF XYRIS (SECT. XYRIS) FROM
TENNESSEE AND NORTHWESTERN GEORGIA

ROBERT KRAL

An examination of the rather small collection of Tennessee Xyris at the Vanderbilt University Herbarium has revealed a specimen labeled "*X. caroliniana* Walt." (this name now applied to a much different taxon) but which, in regard to a combination of characteristics, is distinct from any other *Xyris*. It is hereby described as follows:

Xyris tennesseensis Kral, sp. nov.

Herba solitaria vel dense caespitosa; basis plerumque bulbosa, foliis extimis squamiformibus fuscis inclusa. Folia lineari-gladiata, 15–45 cm. longa; basis equitans, quam lamina 3–8-plo brevior, rosea vel purpurea, margine pallida scariosa; lamina viridis 0.5–1.0 cm. lata, plana vel leviter torta, ad apicem obtusa, incrassata, margine leviter incrassata, paginis glabris vel subtiliter papillosis. Vagina foliis brevior, basin versus rufa vel fusca; lamina brevis. Scapus linearis 30–70 cm. longus, apicem versus complanatus 2–5-costatus necnon saltem duabus costis alis similibus et tuberculo-scabridis. Spica ovoidea 1.0–1.5 cm. longa, obtusa; bracteae multae arcte et spirally imbricatae. Bracteae fertiles suborbiculatae, rotundatae, integrae vel leviter erosae, corylinae, area dorsali ovato-triangulari viridi. Sepala laterali inclusa curvata, carina tenui, basin versus angusta, integra, apicem versus latiora lacerata, ferruginea. Semina non translucida.

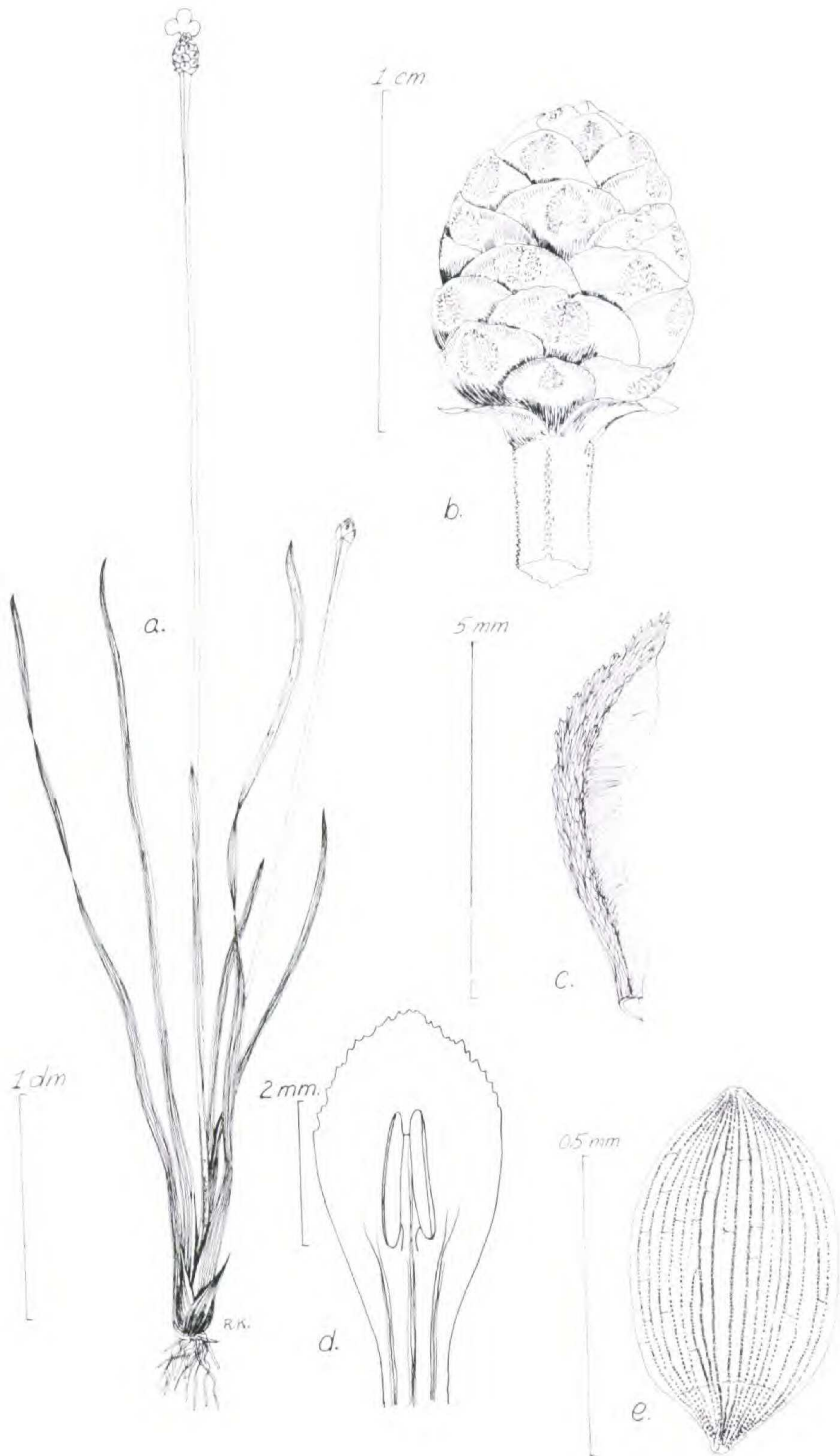
Perennial, solitary or densely caespitose, the plant base soft, somewhat fleshy, often bulbous, usually enclosed in dark, scale-like outer leaves (as in *Xyris torta*, *X. platylepis*). Leaves linear, 15–45 cm. long, the blades linear-gladiate, 0.5–1.0 cm. broad, flat or slightly twisted, bright green, the apex incurved, bluntly acute, somewhat thickened, the margins slightly thickened, entire; equitant base 1/3–1/8 the length of the blade, pink, red or purple, the margin, pale, broad, scarios, the surfaces smooth or finely papillate. Sheaths shorter than the foliage leaves, reddish or brownish proximally and with short blades. Scapes linear, straight, 30–70 cm. long, usually flattened and 2–5-costate distally and with at least two

ridges quite wide and tuberculate-scabrid, subterete and 2–several ribbed proximally. Mature spikes broadly ovoid, 1.0–1.5 cm. long, blunt, of several tightly and spirally imbricated bracts. Fertile bracts suborbicular, rounded entire or slightly erose, tan save for greenish, ovate-triangular dorsal areas. Lateral sepals included, curvate, the keels thin, narrow, the distal half lacerate, broader, reddish brown. Petal blades obovate, ca. 4.5 mm. long, 3.0 mm. broad, yellow, apically rounded, lacerate. Staminodes bi-brachiate, the long hairs moniliform. Fertile anthers ca. 2 mm. long, lance-linear, the sacs near parallel, their tips projecting apically 0.4 mm. beyond the flat connective apex. Seeds ellipsoidal, ca. 0.5–0.6 mm. long, slightly to very farinose, with 18–20 fine, longitudinal lines, these sometimes irregular or joining. Flowering in late summer, early fall. Flowers opening in morning. Chromosome number: $n = 9$.

Seepage over calcareous sandstone or fine, wet, sandy, peaty soil of meadow-swales, Valley and Ridge of northwestern Georgia and southwestern Highland Rim of Tennessee (Lewis County).

TYPE: **United States.** TENNESSEE. Lewis Co.: 3.5 mi. SW of Hampshire just over Maury Co. line by Tenn. 99; locally abundant in *Parnassia* bog, 26 Aug. 1969, *R. Kral 36370*. Holotype at US (this and isotypes soon to be distributed!). Additional material: GEORGIA. Bartow Co.: muddy open area at edge of runway from large spring just S of Aubrey Lake 5.6 mi. N 12 deg E of Cartersville, *Duncan & Harris 12958* (GA). GORDON CO.: 14 mi. S of Chatsworth by UA 411; sunny seep ca. 8 mi. N Fairmount, *Kral 51519* (VDB, dupls. to be distributed). TENNESSEE. Lewis Co.: Meriwether Lewis Nat. Monument. Spring Branch, *C. B. King 318* (VDB); type locality, *Kral 36370*; shaley banks of Little Swan Creek above Natchez Trace Parkway, ca. 1.5 mi. NE of Park Headquarters, *Kral 44471D* (VDB, dupls. to be distributed).

Because of its somewhat bulbous, fleshy base, and twisted leaf blades, this species superficially resembles either *Xyris torta* or *X. platylepis*. However, *X. torta* has ciliate, strongly-curved, apically hair-tufted lateral sepals, together with strongly raised-nerved leaves; and *X. platylepis* has more strongly bulbous, gelatinous coated, bases and larger spikes. Neither of these have farinose seed, a character which, when combined with lateral sepal features, seems



Xyris tennesseensis Kral. a. Habit sketch. b. Spike. c. Lateral sepal. d. Petal blade and stamen. e. Seed.

to relate this new taxon with the *Xyris difformis* complex. In that complex of forms, *X. tennesseensis* is closest to *X. difformis* Chapm. var. *floridana* Kral, the only one with farinose seeds; however that variety lacks bulbous bases, has a lower stature, more spreading leaves which are liberally tuberculate-scabrid over their surfaces, and smaller, sharper-pointed, darker colored spikes.

Xyris tennesseensis has been found in five localities and always in populations unmixed with those of other *Xyris* species. Thus far it appears to be spatially isolated from other Xyrids, and the nearest geographical relatives are *X. difformis* var. *difformis* and *X. torta*. It is curious that to date this plant is known to be local in two different and separate physiological provinces. However, this situation may merely indicate a lack of botanical collection in the intervening area. It is perhaps of some interest that in all presently known localities, a common associate is *Juncus brachycephalus* (Engelm.) Buch., an essentially northern rush, only recently reported (1973, 1975) from further south than Indiana and Illinois.

REFERENCES

- KRAL, R. 1966. *Xyris*, (Xyridaceae) of the continental United States and Canada. *Sida* 2(3): 177-260.
- . 1973. Some notes on the flora of the southern states, particularly Alabama and middle Tennessee. *Rhodora* 75: 366-410.
- . 1976. Additions to some notes on the flora of the southern States, particularly Alabama and middle Tennessee. *Rhodora* 78: 438-456.

DEPARTMENT OF BIOLOGY
VANDERBILT UNIVERSITY
NASHVILLE, TENNESSEE 37235